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Why so Serious? Theorising Playful Model-Driven Group Decision Support with Situated Affectivity

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Abstract An integrative approach to theorising behavioural, affective and cognitive processes in model-driven group decision support (GDS) interventions is needed to gain insight into the (micro-)processes by which outcomes are accomplished. This paper proposes that the theoretical lens of situated affectivity, grounded in recent extensions of scaffolded mind models, is suitable to understand the performativity of affective micro-processes in model-driven GDS interventions. An illustrative vignette of a humorous micro-moment in a group decision workshop is presented to reveal the performativity of extended affective scaffolding processes for group decision development. The lens of situated affectivity constitutes a novel approach for the study of interventionist practice in the context of group decision making (and negotiation). An outlook with opportunities for future research is offered to facilitate an integrated approach to the study of cognitive–affective and behavioural micro-processes in model-driven GDS interventions.

Keywords Group support systems · Group decision support · Model-driven approaches · Emotions

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1 Introduction

The idea that meaningful work might be usefully understood as play is gaining traction in the management sciences (Sandelands 2010; Garrett and Leicht-Deobald 2016). Play in organisations can be related to collaborative learning, humour, fun and creativity. However, play in an organisational setting rarely occurs entirely spontaneously, rather needing to be organised in a subtle manner so that creative playfulness about real strategic issues can emerge (Ahola et al. 2016). 25 years ago Eden (1992) linked meaningful group decision support work to play when he suggested that "*models can be toys that a group can play with together*" in the process of knowledge generation (Eden 1992). Moreover, Taket and White (2000) conceptualised group decision support practice as a ludibrium, a playful toying with ideas (Burrell 1997) in an intervention space where pragmatic pluralist meaning making is enabled. In this sense, model-driven group decision support (Morton et al. 2003) as play has long been seen as comprising behavioural, affective and cognitive aspects of people in interaction (White 2006). Given the growing interest in play as meaningful work in organisations and the rising interest in a micro-approach to group decision support practice, it seems timely to take a fresh look at the role of model-driven GDS in relation to purposeful and playful decision development. Thus, this paper addresses the question: How can performative micro-processes of behaviour in model-driven GDS interventions be understood as meaningful (play)(work)?

The model-driven GDS tradition, which has also been referred to as wide-band GDSS (Eden 1995; Ackermann and Eden 1997) and problem-structuring (Rouwette et al. 2009), comprises methods for group decision development in problem situations with multiple stakeholders who hold potentially conflicting (world)views. In this context, model-driven GDS as scaffolds for cognition have long been identified as supporting participants in creating a pathway for action through the shared model-building activity which involves the development of problem representations, including goals, values, criteria, and preferences (Shakun 1991; Eden and Ackermann 2006; Rouwette et al. 2011).

However, even though it is recognised that affect and emotion are at the heart of the process of OR (White and Taket 1993; White 2016) and of the process of purposeful and shared meaning creation in issue structuring interventions (Ackermann et al. 2016), we do not yet have a theory of affective social(ised) practice in model-driven GDS. A wealth of prior research aimed at understanding emotion exists in relation to technology-mediated GDSS and negotiation, as evidenced by an edited book on Emotion in Group Decision and Negotiation (Martinovsky 2015b), a volume of the Advances in Group Decision and Negotiation Series, and two dedicated special issues (Druckman and Olekalns 2008; Martinovski 2009). However, firstly, most of the work is focused on technology-mediated forms of GDSS and negotiation, with limited consideration of wide-band GDS (Eden 1992). Secondly, in many cases emotions were conceptualised as threatening, rather than being integral to, rational decision making (De Sousa 1979, 1990). Thirdly, none of the reviewed studies appears to draw explicitly on theories of situated affective cognition which support a process perspective of creative 'becoming' in interventions, instead remaining attached to a

state-based view of emotions and models of 'being' in the world (Martinovsky 2015a, p. 179).

This limited integrative theorisation of affective practice in model-driven GDS thus far may be due, in part, to the historically prevalent stark divide between the emotional|rational and the body|mind (Martinovsky 2015a) in disciplines such as the cognitive sciences, psychology and neuroscience, leading to inexpressibility of meaningful affective practice as decision support work. Hence, to gain insight into the affective processes of shared meaning generation that are typically accomplished jointly in playful performative micro-moments in (play)(work) and to be able to investigate performative micro-processes of 'becoming' in model-driven GDS, further theory development is needed. Specifically, further theory and methodology development are needed to embrace the conceptualisation of model-driven GDS interventions as (play)(work) and to capture and analyse the richness of cognition-in-(social)-action through a more in-depth investigation of group decision support practices. The introduction of new concepts to the field of group decision and negotiation has the potential to enable novel and distinct ways of jointly thinking through complicated matters, as the example of the concept of systemicity illustrates (Ackermann et al. 2014; Williams et al. 2013). In this way, language is performative (Austin 1962; Searle 1969) and brings practices to life by establishing, maintaining and influencing relationships between people, objects and ideas in activity. In order to engage in productive interdisciplinary dialogue, practitioners may benefit from stretching beyond the boundaries of their acquired discipline-specific conceptual toolbox to include conceptual boundary objects (Carlile 2002) that have the potential to help researchers navigate between and translate across otherwise distinct spheres of practice.

Taking a fresh look at recent developments in the philosophy of cognitive sciences (Colombetti and Krueger 2015; Wilutzky 2015; Slaby 2016a, b; Maiese 2016; Colombetti 2017), a socially situated view of scaffolded affective cognition seems promising to grasp the doing of collaborative modelling for decision development and the different patterns of thinking and types of behaviours that enable the scaffolding of engagement for genuine collaboration (Hibbert and Huxham 2005). Increasingly, in the philosophy of cognitive science, affect is conceptualised as inseparable from, and possibly as preceding, cognition. It is thus increasingly used to refer to processes which circulate and pass between bodies (Blackman 2012; Wilutzky 2016). We now have the opportunity to extend our theorising of emotions as becoming in the world through the theoretical lens of situated affectivity, which has emerged recently in the philosophy and psychology of cognition and which we advance in this paper for model-driven GDS studies. The specific terminology which accompanies the conceptual infrastructuring of affect in the suggested (micro-)process-oriented approach to practice, is further clarified in section three of this paper. In section three, we introduce the theoretical lens of situated affectivity (Griffiths and Scarantino 2009; Wilutzky et al. 2011; Slaby 2016a, b) which we argue may help to conceptualise complex affective processes in-situ.

Our aim is to consider the potential of this theoretical lens to understand the interplay in practice of the behavioural, cognitive and affective resources that may make GDS interventions meaningful and yet playful work. We will proceed as follows: First, a brief and selective review of prior research on affect and micro-processes is provided.

Next, we outline the proposed theoretical lens of situated affectivity and apply it to an illustrative vignette of a playful in-situ micro-moment. Finally, we offer a reflection on the insights gained, the opportunities that arise for further research and the challenges ahead.

2 Cathartic Moves and Emotional Commitments in Model-Driven GDS

Understanding the socio-emotional dimension of GDS is important not just to manage a short-term intervention, but above all because a continued focus on the task alone can undermine the long-term effectiveness of the group (Fisher and Ellis 1980). The importance of emotions for group decision support processes has been highlighted, for example, in the identification of cathartic moves (Ackermann et al. 2016). Moreover, developing emotional commitment (Eden 1992) to a proposal for action has been found to be integral to effective model-driven GDS interventions. Group decision-making thus requires a capacity for the cognitive and affective understanding of oneself and others. This includes an appreciation of divergent beliefs, motivations, emotions, cognitive abilities and constraints as well as available resources that could affect a group's ability to engage in planning and prediction processes (Eden 1992).

Prior research on emotion in group decision and negotiation has mainly focused on technology-mediated GDSS and negotiation rather than model-driven GDS. Whilst thus not directly translatable to model-driven low-tech GDS, at least at the level of underlying theories some common ground exists regarding the embodiment of emotion based on the work of the neurologist Damasio (2006). However, even though the demise of the rational negotiator (Van Kleef and Sinaceur 2013) has been promised, emotions still maintain—even in recent work—a somewhat mysterious character, being referred to as "hidden emotional content (between the lines)" (Filzmoser et al. 2016) and being based on (internal(ised)) appraisal theories (Obeidi et al. 2005). Similarly, whilst the linguistic and discursive effects of emotions have been studied in face-to-face group decision and negotiation situations (Martinovsky 2015a), the underpinning theories of this work are fundamentally different from the view of situated affectivity—in other words, the reviewed research proposes theories of 'being' (Martinovsky 2015a, p. 179) rather than 'becoming'.

Moreover, prior micro-level research on in-situ processes appears to have sometimes drawn on 'micro-theories' of knowledge generation (Wierzbicki 2010), as well as design theories of process (Tavella and Franco 2014) leading, at times, to an almost transactional view on the intervention process. Considering research conducted in the wider field of OR, a number of studies related to GDS are concerned with studying in greater depth the micro-processes and practices that intervene in group decision support (Ackermann and Eden 2011; Tavella and Franco 2014; Ackermann et al. 2016; Tavella and Papadopoulos 2015; Velez-Castiblanco et al. 2016; White et al. 2016; Comi et al. 2016). A common theme in the studies is the interest in understanding how interaction is coordinated in ways that help to create shared understanding with a particular focus on shared symbolic systems amongst the participants in-situ. Thus, with the exception of some earlier work in the OR community (Howard et al. 1993; Phillips and Phillips 1993; Huxham and Cropper 1994; Taket and White 1994, 1997,

2000; White 2006) there still appears to be very limited progress in the development of theoretical lenses that explain how attention to emotion is entangled in the embodied restructuring and reframing of problem representations and solutions (Druckman and Olekalns 2008; Martinovski 2010).

In sum, whilst a significant prior amount of research exists on emotion and affect in the area of group decision support, and whilst emotions have been considered in and for models of behaviour in negotiation settings, particularly with reference to electronically supported negotiations, overall there appears to be limited prior explicit theorisation of social emotional processes that find their expression in the form of positive affective behaviour during model-driven GDS interventions. Positive affect is likely to be particularly beneficial for improving performance in problem restructuring situations, because it is assumed to support flexible and creative thinking that can lead to more effective resolutions than compromise can. As such, further research is called for and we suggest that the theory of situated affectivity may be a suitable theoretical lens to progress this research.

3 Situated Affectivity

Discontent with Cartesian dualism and the associated mind-body split has given rise to theories of situated cognition (e.g. Suchman 1987). In the same way that situated cognition approaches seek to understand cognition in social(ised) practice, the lens of situated affectivity suggests that emotions can be usefully conceptualized as resulting from the interaction between affective qualities or affordances in the environment and the embodied subject's resonance (Fuchs and Koch 2014; Stephan et al. 2014). A situated perspective thus views cognition and affect as being embedded in networks of socio-cultural, biological and material scaffolds that support their continued performance (Krueger and Szanto 2016). Practices aimed at sustaining and amplifying our epistemic and affective behavior-in-practice through engagement with resources in the environment that are used as scaffolds, can be characterized as niche construction (Sterelny 2010). The lens of situated affectivity suggests that people do not just actively manipulate their environment for cognitive, but also for affective scaffolding purposes (Colombetti 2017). As such, in affective niches, by virtue of scaffolded affectivity, further cognitive capacities can be developed (Slaby and Wüschner 2014). Figure 1 illustrates possible relationships between the concepts.

As illustrated in Fig. 1, viewing participation in a model-driven GDS workshop through the lens of situated affectivity suggests that co-attendance with others in the workshop modifies processes of perceiving and responding to object(ive)s, in part because the behaviour and emotional responses of other participants may become constituents of one's own experience (Maiese 2016). By providing regulatory input, other group members thus enable access to qualitative features of the shared experience that would otherwise not be accessible, thereby expanding the complex character of one's own experience (Krueger 2015). Joint objectifications, e.g. co-constructed OR models are therefore not just the result of joint action, but the basis for the regulation of collective action. The shared attentional framework, functioning as an external affective scaffold in this context, will co-regulate individual emotional responses. In this

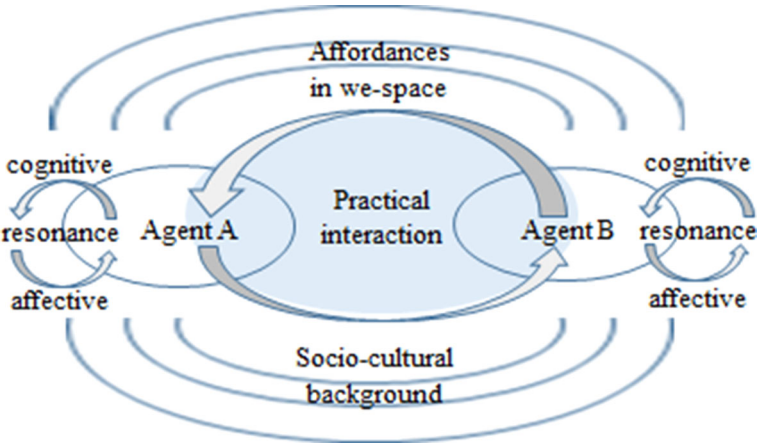


Fig. 1 Situated affectivity as niche co-construction [informed by Fuchs and Koch (2014) and Slaby (2016a, b)]

sense, social cognition is scaffolded affectively (Maiese 2016). Further clarification of the relevant concepts is provided in Sects. 3.1, 3.2 and 3.3.

3.1 Cognitive–Affective Niches

Cognitive niches (e.g. Sterelny 2010) are environmental adaptations brought about by agents who seek to engineer environmental supports that augment their cognitive abilities for living a knowledge-intensive, socially interdependent society (DeVore and Tooby 1987). Affective niches are "*instances of organism-environment couplings (mutual influences) that enable the realization of specific affective states*" (Colombetti and Krueger 2015). Given that cognition and emotion are so intimately intertwined, we can refer to an integrated account of these intentionally brought about environmental adaptations as cognitive–affective niches. The concept of niche construction is based on the view that individual representational systems are part of a larger representational environment and that "*reasoning about the causal structure of the world, cooperating with other individuals, and sharing […] knowledge and negotiating […] agreements via language*" (Pinker 2010) are processes that can be sustained, amplified or dampened by actively modifying one's environment to transform problem spaces in ways that enhance problem solving.

3.2 Situated Affectivity

The theory of situated affectivity expresses the idea that cognitive processes are intimately linked to the complex and often antagonistic feelings in groups and individuals. As such, affect can be seen as "*a form of social action, both in the ways in which it achieves social ends collectively, and in the ways in which collective meaning shapes individual experience*" (Boehner et al. 2007). This creates the potential for shared

Table 1 Situated affectivity—a form of social action [Based on Wilutzky (2015), Slaby and Wüschner (2014), Colombetti and Krueger (2015) and Colombetti (2017)]

'Traditional' view of emotions	Situated affectivity
Embrained	Embodied
Internal(ised)	Porous (Scaffolded externally)
State: evaluative representation of a situation must be fully established first in order for an emotion to occur	Dynamic process (Pragmatic actions): transformations in a physical or social space to advance toward a certain goal state; emotion can arise in process
Individualised (singular) and detached representations of an event's evaluative properties	Socially scaffolded and embedded in the social context
Stimulus-response: 'passively undergone experiences' via affect programs or cognitive appraisals	Actively (intentionally) brought about (scaffolded) and employed: subjects actively manipulate the material and social world for the purposes of regulating their affective condition
Mind-to-world (emotions as evaluations)	Both mind-to-world and world-to-mind direction of fit are possible: reciprocal causation or dynamic coupling of emotions' intentional structure in social contexts

affective bonds that may extend beyond organisational boundaries or disagreements between group members during model-driven GDS interventions. Situated affectivity thus suggests that we are studying complex co-construction processes of organisms and environments (Slaby 2016a, b). In this view, the communication of judgements, requests for specific responses and the coordination of joint action are influenced by adaptive processes of affective action (Krueger 2015; Griffiths and Scarantino 2009; Wilutzky 2015). Features of our environment are seen to drive and partially constitute emotions with cognitive processes arising from an agent's active engagements with the environment through their body, thus lifting the barrier between body and cognition (Blackman 2012). In a matter of degrees, some emotions may even be said to be constituted by external resources so that they could be said to spread out beyond brain and body and might be socially extended and shared by multiple agents (Krueger and Szanto 2016). These new developments with the focus on situated affectivity, affective energies and creative motion, characterise cognitive–affective performance by movement and process (Blackman 2012) (Table 1).

The situated affectivity lens (Table 1) proposes that human emotions are best understood as active engagements with the world and not, as 'traditional' philosophy of emotion proposes, as passively undergone experiences (Slaby and Wüschner 2014; Maiese 2016). Thus, we can view model-driven in-situ performance in model-driven GDS interventions as arising from the spatio-temporal weaving of resources in an active process of cognitive–affective niche construction, thereby allowing for idiosyncratic performances between groups in the same GDS intervention to co-exist. Consequently, we also cannot explain performance in OR without references to the

entwining between affective, cognitive and behavioural aspects of collective practice. Creative modelling processes, and in particular rich pictures as used in some soft OR interventions, might serve as affective-cognitive scaffolding. Symbol systems, including such as those used in group model building interventions, constitute powerful representational resources, which are resources not just for an individual cognizer considered in isolation, but are sustained through collective social practices; this is what renders them collective representational resources in the first place (Gelfert 2015). In interacting with external artefacts, through processes of internalisation, we learn to think in terms of those systems including language, number systems and diagrams (Menary 2010; Heersmink 2017). As such, the situated affectivity perspective brings our attention to the material effects of collective resources such as language, diagrammatic methods and notational rules (Gelfert 2015), or—in the case of material models—conventions regarding the use and manipulation of the constituent parts, such as the procedural aspects set out in model-driven GDS modelling methods. As such, the surrounding workshop environment, as it undergoes active material and social manipulation by the participants appears to have a central causal role in the construction and expression of affective states. Not only are our brains' representational properties transformed in interaction with cognitive artefacts, but so are our embodied interactive skills and the affective framing (Slaby 2016a, b; Maiese 2016). Therefore, the situated affectivity lens seems to be promising for a micro-process approach to model-driven GDS practice with the aim to understand how jointly shared responsibility may be achieved for a decision supported my several decision makers (Arnott and Pervan 2005), who need to feel a sense of ownership to enact the decisions after the intervention (Perry 2013).

3.3 Affective Scaffolding

Originating in theories of developmental psychology of dyadic or small group learning (e.g. Bruner 1990; Vygotsky 1997), the concept of "scaffolding" has been increasingly used to refer to physical, cognitive and social augmentations of cognition, "*augmentations that allow us to achieve some goal that would otherwise be beyond us*" (Clark and Chalmers 1998). In the context of organisational development, collaborative work is accomplished through the integration of multiple scaffolds, including material and symbolic resources (e.g. objects, language, artefacts), spatial contexts, and institutional rules, social processes, and cultural norms (Weick 1995; Hutchins 1995; Orlikowski 2007; Gordon and Georg 2015), "*all of which structure human activity by supporting and guiding it, while at the same time configuring and disciplining it*" (Orlikowski 2005). Affective scaffolding (Colombetti and Krueger 2015) refers to processes of 'situation modification' (Stephan 2012) when we actively structure the environment to influence our emotional well-being and affective states in an ongoing way. Scaffolds in the environment are not just part of a background, but rather have a central causal role in bringing about cognitive–affective capacities (Maiese 2016). In affective niches, by virtue of scaffolded affectivity, further cognitive capacities can be developed (Maiese 2016). The emphasis on agentic engagement with the world makes this theory thus particularly interesting for the study of creative model-driven GDS which

aims to engage participants in the active construction of a shared future plan for action (Eden 1995; Taket and White 2000).

4 Play Frames in We-Spaces

The situated affectivity perspective draws attention to the way in which both emotion and cognition are sustained and amplified through active engagement with elements in the surrounding environment (Maiese 2016). The area in which the (body-becoming-)mind most noticeably extends its sociality, is in our interactions not with inanimate objects but with other people (Robinson 2013). Thus, we are particularly interested in illustrating the role of human agency in the use of the socio-material resources for group decision support—which include other participants' embodied minds. The ways in which interactive performance unfolds between participants who already—as encultured and socialised human beings—come equipped with complex interpersonal scaffolding instruments is of particular interest. Thus our attention turns to the playful interactions that participants engage in as they realise that, in the context of the model-driven GDS interventions, a 'we space' i.e. "*an emotion-rich coordinative space [that is] dynamically structured via the ongoing engagement of social agents*" (Krueger 2011) is scaffolded and that they have been given the opportunity to exercise 'play frames' (Bateson 1953). Participants in conversation can construct a play frame of 'non-serious' talk by signalling that "This is play" through a process of psychological framing of their talk as humorous (Coates 2007). The concept of a 'play frame' is used here to illustrate how the lens of situated affectivity lens deepens our understanding of environmental, and in particular, inter-personal fuels for shared planning.

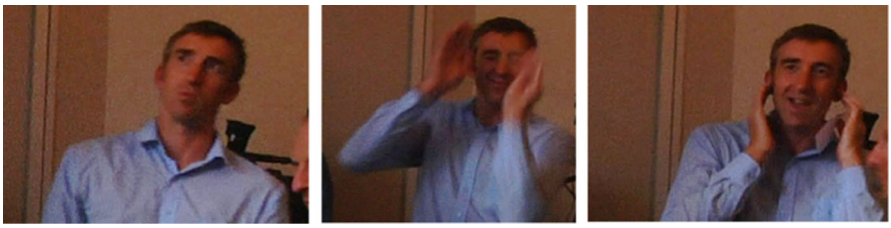
4.1 Micro-moment: Jester's Privilege

Our vignette is drawn from a model-driven GDS intervention that took place in an urban planning context (cf. White et al. 2016). The vignette illustrates a humorous play frame (Coates 2007) which occurred during the modelling phases of the GDS intervention and was triggered by conversational processes related to interrogating the relationships between the post-it notes that had been previously added to the flipchart models. The entire frame takes 30 s to play out, with the humorous micro-moment taking 3 s to perform, and forms part of an iterative model building process, instantiating the interweaving between process and content (Checkland and Winter 2005). The topic of conversation is the experienced difficulty of establishing trust-based relationships with market-led developers in order to advance community engagement and sustainable novel energy technologies (Fig. 2).

The micro-moment, followed by laughter, shows a participant who is using his body as a resource to enact the pictorial maxim of the three wise monkeys (Fig. 3), which forms part of our shared cultural repertoire, to communicate his disapproval of the behaviour of commercial developers turning a blind eye to attempts to achieve an integrated 'green development' for the entire zone.

Through humour, a critical viewpoint is advanced in a 'permissible' manner without causing outright offence or possibility of direct retaliation/refutation, as Jesters have

Fig. 2 Playframe opening: Participant starts speaking



"As soon as you start talking about … They go… *Ooouuuh…Nanananana…."*

Fig. 3 Humorous micro-moment (3 s)

Fig. 4 Playframe ending: Laughter and different participant picking up the point made

the right to speak 'truth' to (institutional(ised)) power. The laughter, shared by at least two other group members, that follows his performance constitutes a form of mutual acknowledgement of the felt lack of control and influence over market-driven developers and thereby lends support to the participant (Fig. 4).

In laughing together, a moment of intimacy is created as some of the other participants acknowledge that they recognise his understanding of the problem—not only conceptually but intimately (Crowe et al. 2017). This helps to inform the next action by the group, i.e. to agree on the allocation of coloured scoring points to the model (Davis et al. 2010) to prioritise the allocation of resources—emotional and cognitive—in a conceptual format by adding scoring points to the flipchart model for relevant pro-

cesses. In consequence, affect performed in-situ can be said to have influenced the plan for action beyond the workshop. This is explored in more detail in the following sub-sections, considering verbal and non-verbal affect as practical action, reciprocity, social scaffolding and embodied engagement.

4.1.1 Verbal and Non-verbal Affect as Practical Action

The micro-moment illustrates how bodily and linguistic resources are used to move forward in the problem situation through affective scaffolding (e.g. the intentional use of humour) to facilitate the collective problem restructuring process. In the micro-moment, the participant-turned-Jester uses both verbal (sing-song) and non-verbal clues (arms and hands) to isolate the humorous micro-moment from the normal dialogue (Wilson 1979). The micro-moment is accepted as being governed by different rules to those which govern serious dialogic exchanges as the clues are understood by listeners (signalled by laughter). The micro-moment of permitted disrespect in the 'joking relationship' allows negative feelings and institutional criticism to be expressed 'freely', without causing offence (Watson and Drew 2017; Greve 2017). As such, the discursive ambiguity of humour with its friendliness and antagonism creates a 'safety valve' (Radcliffe-Brown 1952) with the possibility for a 'cathartic move' (Ackermann et al. 2016). Moreover, such talk, even though regarded as 'non-serious' by participants, can nonetheless serve to accomplish other strategically important ends (Coates 2007) which is reflected by the subsequent prioritisation of processes on the 'serious' flipchart model, illustrating that task-oriented humour can stimulate an effective group response to a work-based, goal-oriented issue (Holmes 2007).

4.1.2 Cognitive–Affective Niches

The capacity for complex forms of perspective-taking and shared understanding can be enabled by the provision of specific kinds of affective scaffolding (Maiese 2016). During the micro-moment performance, the participant-turned-Jester, through his movements and emotional expressions, draws the attention and interpretative activity of the other participants to the enacted pictorial maxim, so that it becomes possible for the participants to share each other's perspective and point of view. Humour is thereby performed as a shared social activity with the ability to strengthen interpersonal dynamics and organisational relationships (Cooper 2008). In the process, the participants actively use and modify scaffolds in their environment (e.g. their postures, gestures, speech as well as the post-it notes and prioritisation points on the flipchart model), using emotion whilst advancing their point of view and sustaining collaborative modelling activity. Moreover, the vignette illustrates that, through their dynamic and embodied engagement in the micro-moment, participants gain access to fine-grained social information, so that social cognition and affect appear to have been scaffolded in what seems to be at once an affective (humour and laughter) and cognitive niche (challenging relationship with market-developers) (Maiese 2016). This tangible sense of a 'shared experiential field' (Krueger 2011) can be referred to as 'we-space': a dynamic, forceful realm enacted jointly by two or more interacting participants which is in existence only for the time the interaction lasts (Fuchs and Koch 2014). Within

this shared experiential field, dynamic interrelations exist between positive affect and effective cognitive performances (Krueger 2011).

4.1.3 Social Scaffolding

Researching humour in negotiations, Maemura and Horita (2012) found that it can be used to improve cohesion, indicate the willingness to cooperate, to cope with a difficult situation, and to release tension. As such, humour can be conceptualised as interpersonal emotion management with the purpose to manage the emotions of others as well as of the self (Yip and Martin 2006). The vignette illustrates how the participant-turned-Jester acts on his surroundings, in this case mainly the other group members, and influences and scaffolds their moods (laughter arising) thus contributing to the construction of the group's affective niche (in part, by creating shared affective memories of the humorous incident). The group's laughter would not have been possible had it not been for the reciprocal appreciation of the humorous incident that can be seen to illustrate emotion as a social process. It also illustrates that affective scaffolding has both active and passive aspects: "*we actively manipulate the environment so that we can be passively influenced by it*" (Colombetti 2017).

4.1.4 Embodied Engagements

The vignette illustrates that during the model-driven GDS intervention, an increased social understanding and exploration of emotions is scaffolded, in part, by the positions that participants take, as well as their movement sequences (Maiese 2016). Through these additional non-verbal possibilities of communication in-situ, the reliance on verbal exchanges is reduced. The availability of additional bodily resources for communication thus appears to be particularly important in settings that are conflictual, which is not uncommon in model-driven GDS, where participants may find constructive verbal dialogue difficult to initiate. As such, in particular low-tech model-driven GDS interventions that give space to embodied interaction may have the potential to be even more effective than explicit negotiation and verbal dialog in some cases (Jones and LeBaron 2002). Model-driven low-tech GDS might be said to enable a 'social technology' of bodily-affective resources that may allow communication to flourish.

4.2 Why so Serious?

In sum, the vignette has illustrated the intertwining of materiality beyond the model (e.g. bodies), instruments beyond the tools provided (e.g. linguistic patterns) and interaction rituals beyond the model-driven GDS script (making fun to move the conversation forward) (Rossner 2011). However, rather than being random or the product of individual differences, the sequence and flow of these interactions appear patterned—in our example by a humorous play frame with a shared focus on conversational rhythm-illustrating how the collective regulation of action in-situ draws on collective cultural resources. Thus, the micro-moment illustrates how situated affectivity can be constitutive of effective model-driven GDS interventions, by connecting

participants and creating common experiences that shape shared feelings and social cognition.

4.2.1 Situated Social Affectivity

The vignette suggests that the model-driven GDS intervention offered a socially shared affective experience (e.g. Rogelberg et al. 2010) to the participants and the lens of situated affectivity provides conceptual resources to understand how (play)(work) might be accomplished: the micro-moment's performativity appears to be brought about through the performer's pragmatic enactment of the pictorial maxim (active manipulation of the 'we-space'), the other participants' understanding of the maxim (shared socio-cultural context), their openness/susceptibility to reciprocal causation of emotions (porosity of bodies in a cognitive–affective niche) which gives rise to the shared emotional expression of laughter (socially scaffolded emotion). Environmental resources (incl. body-space-other bodies) and interpersonal scaffolds (language and bodily expressions, e.g. gestures, language) were drawn upon in pragmatic action to construct an opportunity for cognitive–affective interpersonal understanding by expressing an issue humorously which would otherwise have potentially caused offence. Thus, to understand the performativity of model-driven GDS it seems important to consider not 'just' the physical and epistemic interactions with a model as a tool in knowledge generation processes, but also the interpersonal emotional commitment(s) in interaction with cultural artefacts, including models, which we use to scaffold group decision formation processes. An abstract characterization of such resources and processes is likely to tell only half the story, as resources appear to be constituted equally by the situated affective patterns in activities of manipulation or inference of the participants who deploy the resources.

4.2.2 Serious Play Dates

Humour has been found to be a specific variant of play (Ahola et al. 2016) and humorous discourse is characterized by "*ambivalence, accepting the ambiguities, contradictions and paradoxes latent in social constructions of reality*" (Watson and Drew 2017). The 'unreality' of humour is illustrated by the micro-moment as it associates the pictorial maxim with real-life commercial developers pursuing 'serious' business. The micro-moment thus appears to be performative because it is based on the acknowledgement of more than one interpretation of reality (Sandelands and Boudens 2000). Jokes can be constructed by juxtaposing two different frames of reference, so that a glimpse of alternative (and shared) perceptions of reality (Grugulis 2002) is provided. As such, situation-specific humour may be seen as actively relying on the existence of numerous, complex realities for its comic impact (Kahn 1989). Given that the claim to purposeful decision support provided by model-driven GDS to a significant degree relies on assisting participants to share different 'worldviews', enabling participants to *experience* the problem situation from multiple perspectives, for example through the use of humour, should be of significant interest to GDS practitioners. In particular, two considerations of importance for the scaffolding cognitive–affective niche construction arise: First, agency, conceptualised as the degree of control that participants

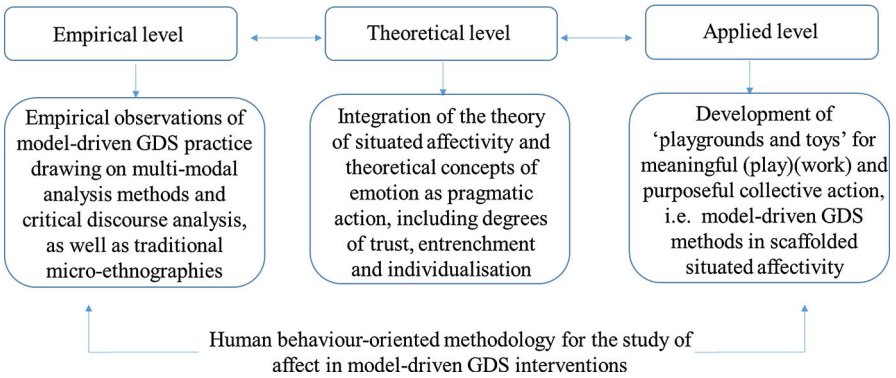


Fig. 5 Micro-process research with situated affectivity

have over the OR technology and second, interactivity, defined as the capacity of participants to respond to the contributions of others, act on them and alter them in some way or another whilst engaging in the co-construction of models.

5 Purposeful Play

The vignette illustrated how situated affectivity in GDS interventions can be transformative, setting directionality in the discourse and bringing materiality in with the development of bodily rhythm in conversation. Thus, the opportunities offered by the theory of situated affectivity for broadening definitions of what 'counts' as an emotion or emotional expression, as well as detailing the link between expression, action and talk, are therefore important in thinking critically about emotions in model-driven GDS. Finally, we can begin to suggest a methodology for the study of micro-processes of situated affective activity—or (play)(work) in model-driven GDS (Fig. 5).

In the following sub-sections, we reflect on opportunities, limitations and extensions arising from the proposed theoretical perspective.

5.1 Theoretical Aspects in a World of Practices

The perspective of situated affectivity is being advanced by philosophers of cognitive science, drawing on the philosophy of biology (Sterelny 2010) and, at times on sociological theories and phenomenology. However, much work remains to be done in systematically linking debates within philosophy on socially extended and collective emotions (León et al. 2017). One particularly interesting aspect is the question what attracts people to one another in play and why we play together. Obvious connecting theories from developmental psychology include work by Vygotsky (White et al. 2016), given the shared interest in socio-cultural scaffolding processes. The efficacy of model-driven GDS as organised (play)(work) might then be explained by their benefits for intellectual and social development (Vygotsky 1980) and the role in personal creativity (Isen 1999; Sandelands 2010). Moreover, theories of practice

may be of interest to study the normative aspect of interactions and materialities (Bourdieu 1990). Practice theorists talk about the "feel for the game"(Bourdieu 1990; Nicolini et al. 2003; Gherardi 2009) and the "emotional habitus", that is, internalized and internally structuring mechanism of managing one's own and influencing others' emotions. Considering the interest in scaffolding meaningful work through purposeful modelling interventions, the workshop's inner dynamics, tensions, and movement toward completion could be explored further (Sandelmans 2010). Lastly, considering recent theoretical developments in management science, the theory might well inform research on 'serious gaming' with virtually situated affectivity in distributed organisations.

5.2 Methodological Considerations

Many of the outcomes of model-driven GDS interventions are thought to be 'invisible' process changes such as "*a 'conscious appreciation' of growth in shared perceptions and orientations, of unresolved problems, of other organisational cultures and personal styles, constraints and pressures and others, and shared ways of working*" (Friend and Hickling 1987). Such qualitative, cognitive–affective changes of aesthetic value (Taket and White 2000, p. 238) might be insightfully studied with a micro-process lens on situated affectivity, as illustrated by the vignette in which we paid attention to micro-shifts in individual views that occurred during model-driven GDS. To proceed, we need research methods that facilitate an inquiry into the dynamic instantiation of connections between the cognitive, affective and behavioural aspects during specific GDS interventions and that enable us to conceptualise the properties which arise such interactive processes (Belland 2011). The importance of ethnography with its long history of successfully studying complex social processes is thus highlighted. Authentic data such as recordings of face-to-face interactions are needed and video recordings in 'natural' settings appear useful to capture OR practice. Whilst our vignette has only served to briefly illustrate the lens of situated affectivity, adequate methods of analysis may include discourse analysis, conversation analysis, activity-based-communication analysis, and interactional sociolinguistics (Koeszegi and Vetschera 2010; Norrick 2010; Martinovsky 2015a). Specifically, more detailed studies that analyse group conversations as multi-modal and complex phenomena (Kress 2009) and illuminate the sharing of modes across participants and settings would be valuable. As a layer upon the multimodal analysis lies metaphoricity (Cameron and Deignan 2006; Jensen and Cuffari 2014)—the potentially metaphorical language used to scaffold the knowledge sharing and negotiation (Greve 2017). Moreover, critical approaches inspired by cultural studies scholars (Blackman 2012) and discourse studies (Wodak and Meyer 2015) may help to understand how processes of meaning making by individuals and groups are interwoven with their being-as-historical-subjects within structuring and structurating processes (Slaby 2016a, b). Relatedly, situated affective micro-politics in face-to-face interactions still need to be understood better (Mühlhoff 2016) so that the performative use of social collective resources, such as humour, and contributions of technology-enhanced group decision structuring settings, such as the relative anonymity of each participant's contributions

during the decision process, can be jointly studied through an integrative lens (Ackermann and Eden 1994). From the point of view of affective niche construction and situated affectivity such micro-level approaches should help us to characterise practices of group decision co-construction more precisely, emphasising the role of distinctive affective processes situated in the socio-material playground of model-driven GDS.

5.3 Empirical Aspects: Playing Meaningfully

The aspect of apprenticeship for self-facilitation of model-driven group decision support requires further attention. Affective practices may well be learned through gradual 'pickup of lore', both through formal demonstration and playful trial-and-error experiment (Sterelny 2012). Thus the perspective of situated affectivity draws attention to processes of learning how to scaffold effective group discussions over time, thereby contributing to the original idea of model-driven GDS as upskilling (Rosenhead and Thunhurst 1982). The apprenticeship aspect also leads to considerations regarding intervention design as a multi-method activity. If we accept that (i) emotional commitment is fundamental to successful model-driven GDS (Eden and Ackermann 2013), and we accept (ii) that our vignette of the humorous play frame illustrates the co-construction of a shared emotional understanding of a problematic aspect of the 'wicked problem situation', and we accept that (iii) this shared understanding was to a significant degree accomplished through non-verbal and bodily performance, then we have to confront the possibility that increasing technology-support in model-driven GDS, for example through personal computers in pursuit of greater efficiency of idea generation, may come at the expense of substantial opportunities for complex—interpersonal affective scaffolding of group decisions. This should be a consideration at least in the sense that sequential multi-(method) approaches iterating between low- and high-tech tools (cf. Ackermann and Eden 1994) or a more seamless integration of high-tech tools (e.g. interactive tabletops) could be developed further.

Moreover, alternative interpretations of the micro-moment could be offered, particularly if the researchers' epistemological interest was the context-specific content of the exchange and its relationship with the wider discourse on urban sustainability, rather than a micro-processual understanding of the mechanisms by which affect matters in its unfolding in-situ. For example, as any sustainable urban development project has to hold the tension between environmental, social and economic goals, it would possible to consider how these interests are reflected in and possibly how they animate the documented exchange. Particularly promising theoretical lenses for such considerations are activity theory (White et al. 2016), the sensemaking perspective and the Mangle of practice (White et al. 2015). Such theorising could be pursued in conjunction with the consideration of situated affectivity to understand how affect, cognition and behaviour are intertwined in-situ. However, as our focus of this paper is to demonstrate the value of the lens of situated affectivity for the often under-theorised dimension of affect in-situ, we view such zooming out (Nicolini 2009) of the micro-moment as an area for future development.

Finally, the practitioner-facilitator might be particularly interested in practical insights arising from the perspective of situated affectivity for their role as an enabler of

positive playful micro-moments. Having zoomed in on an illustrative micro-moment, we have left supportive micro-interventions by the facilitator out of the play frame. Future research may, however, pay greater attention to micro-moments between participants and facilitators through the lens of situated affectivity. Here, we hope that it may suffice to suggest that engaged facilitators who mix, modify, match and multiply (Taket and White 2000, p. 96) the 'toys' that have been developed over time for group decision support in a manner that considers flexibility, fairness, forthrightness and focus (Taket and White 2000, p. 146) may hope to do approximately right (White and Taket 1997)—and in this sense might even permit themselves to bring their sense of humour into play(work).

6 Conclusion

Model-driven group decision support (GDS) interventions are thought to scaffold constructive active group reasoning processes. However, despite practitioners' confidence that model-driven GDS will deliver enhanced outcomes, we do not yet fully understand how changes in collective behaviour are stimulated by the provided scaffolds as there is a historical shortfall of research into the actual behaviours of the actors involved (Keys 2000). To this date, the design and implementation of model-driven GDS are often treated as 'black boxes'—full of unidentified processes and practices with little clear interdependencies. Model-driven GDS practice thus needs to be more extensively studied in-depth to identify how the use of methods may be associated with changes in the participants' ability to take effective collective action in problematic situations.

The perspective of situated affectivity, which has not yet been applied to the study of model-driven GDS, may offer a potentially very relevant approach to the study of practice. Applying this perspective to study what's going on inside the black box of a model-driven GDS intervention, we have illustrated a micro-moment of human creativity in-situ which may be seen as indicative of our joint ability, drawing on reciprocal scaffolding processes, to overcome obstacles in the context of model-driven GDS. The use of humour, as reported in the micro-moment, may appear trivial but its performative function is surprisingly easy to overlook. Through playful cognitive–affective scaffolding, participants move forward in messy problem situations. The decision support provided by low tech GDS interventions may thus, at least partly, lie in giving space to purposeful (play)(work).

The micro-level view (re)emphasises the need for integrative perspectives for the study of behavioural, cognitive and affective processes in-situ that take into account the complex role of the environment in scaffolding affective collective performance. Situated affectivity in model-driven GDS interventions might be understood as the nuanced interweaving of individual and collective resources for effective performance, contributing the development of a social(ised) logic of OR practice. More research from a micro-process perspective on situated affectivity would thus be desirable to further explore behaviour in model-driven GDS interventions as serious (play)(work), undertaken and enabled by a(n) (OR) community alive in play.

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